

Urban ecology: Ecology and economy

Strand

Place and Space
Culture and Identity
Systems, Resources and Power

Core learning outcomes

<i>Place and Space</i>	PS 5.5	Students evaluate ideas concerning sustainability to identify who may benefit and who may be disadvantaged from changes to a Queensland industry.
<i>Culture and Identity</i>	CI 5.1	Students investigate aspects of diverse cultural groups, including Aboriginal or Torres Strait Islander groups, and how others perceive these aspects.
<i>Systems, Resources and Power</i>	SRP 5.1	Students evaluate the relationship between an ecological system and a government and/or an economic system.
	SRP 5.2	Students design models of the Australian economic system to demonstrate its relationship to global trade.
	SRP 5.5	Students apply the value of social justice to suggest ways of improving access to democracy in Queensland or other Australian political settings.

Purpose and overview

Activities assist students to work towards demonstrating the core learning outcomes through explorations of a built environment and its links to the global economy. Abstract concepts, including economic concepts, are introduced.

Students are introduced to the basic operations of a free market system and reflect on the values of ecological and economic sustainability, including the impact of sustainability on a Queensland industry. Students learn about how diverse cultural groups, including Aboriginal groups and Torres Strait Islander groups, perceive aspects of economic systems and they develop understandings about Australia's economic relationship to global trade. Students explore relationships between ecological, government and economic systems at local and global levels.

The processes of investigating, reflecting and creating are highlighted to help students understand a range of systems, including those related to Australian political systems. Students are encouraged to reflect on and improve the investigative strategies they have used. The activities provide opportunities for students to use their understandings and communicate judgments about how some systems operate.

Phases (Minimum time recommended: 10 hours)	Activities	Core learning outcomes	Assessment opportunities
1. Exploring photographs (approximately 1 hour)	Students explore photographs of a city to reveal values concerning economic or ecological sustainability and compare these with perspectives of different cultural groups.	PS 5.5	Structured observation
2. Investigating what we can learn from buildings (approximately 4 hours)	Students participate in question framing, comprehending, interpreting and locating information to investigate urban ecology.	CI 5.1 SRP 5.1 SRP 5.2	Structured observation Oral reports
3. Analysing ecological and economic relationships (approximately 2 hours)	Students analyse environmental and economic concepts.	PS 5.5 SRP 5.1 SRP 5.2 SRP 5.5	Structured observation Creating a 3-D economic model
4. Communicating conclusions (approximately 2 hours)	Students sequence arguments, present conclusions, and consult politicians, associations and businesses in relation to changes to regulations for the building or real estate industries.	PS 5.5 SRP 5.5	Structured observation Student-designed interviews Short essay Non-written report
5. Reflect and review (approximately 1 hour)	Students reflect on and review their investigations and findings.	PS 5.5 CI 5.1 SRP 5.1 SRP 5.2 SRP 5.5	A report

Assessment

The assessment opportunities outlined are examples of how to assess students' demonstrations of the identified learning outcomes. As often as possible, negotiate assessment with students and support a variety of ways of demonstrating the outcomes. Reflect with students on evidence gathered when making judgments about their demonstrations of learning outcomes. Some students require more time and/or other contexts in which to demonstrate these learning outcomes. Other modules may provide such time and/or contexts and the 'Levels 1 to 6 module learning outcomes maps' in the *Years 1 to 10 Studies of Society and Environment Sourcebook Guidelines* can be used to identify these modules.

Sample assessment

Structured observation can occur throughout the phases and may involve the use of checklists (see 'Sample assessment' at the end of this module). These could be combined with anecdotal notes and completed after discussions with the student or after the student has completed a short written piece.

Progress reports could support structured observations. These could require students to articulate a research question related to an activity or activities, to list resources they have identified that are relevant to the research plan, and to describe how and where they located these resources. To verify that this has occurred, students could attach any summarised notes taken from the resources.

Assessing learning outcomes at different levels

Activities are designed primarily for students working towards demonstrations of Level 5 learning outcomes. Some assessment opportunities may be used to decide whether students are demonstrating the learning outcomes at levels before or after Level 5. To guide judgments about students' demonstrations of learning outcomes consider whether students are:

- working towards demonstrations of the Level 5 learning outcomes
- demonstrating the Level 5 learning outcomes
- demonstrating the Level 5 learning outcomes and working towards Level 6 learning outcomes.

Learning outcomes in the syllabus at Level 4 and Level 6 could provide a guide for teacher judgments. Studies of Society and Environment learning outcomes are organised so that there is a progression of concepts and processes within a strand. For example, the progression from PS 4.5 to PS 5.5 to PS 6.5 involves increasing sophistication and complexity, particularly related to the concept of *significance of place* and the process of *reflecting*, though neither of these is exclusive of other concepts and processes. The elaborations provide specific content examples of how the concepts and processes may be levelled from Levels 1 to 6. See the Queensland School Curriculum Council website at www.qscq.edu.au for more information.

Using this module

This module contains a workbook of student activities and a number of student information sheets. It is a learner-centred module. Guide students as they work through the workbook.

The module is sequenced in five phases according to key processes. Phase 3, which involves creating, needs to be preceded by one or both of the earlier phases. In the investigating phase, students may develop their own focus question rather than use the one provided.

Some activities will need to be planned in advance. If a local politician is to be invited to speak to students, the invitation will need to be sent at the beginning of the module. The protocols that need to be followed if Aboriginal people or Torres Strait Islander people are invited to speak to students during any of the phases can be found in the equity section of the Queensland School Curriculum Council website at www.qscq.edu.au.

The initial stimulus materials for this module are set in Brisbane, but are suitable for use by students in a range of settings. The activities expand horizons beyond urban and rural divides and include a range of perspectives. The module can be customised by providing more locally relevant material.

The key values of social justice and ecological and economic sustainability are highlighted. Activities encourage students to value diversity and explore perceptions of different groups. Understanding the interrelationship between ecological systems and economies is central to this module which also supports explorations of democratic process as a value. The module involves students in examining local building regulations and discussing issues with local politicians.

Note: The building in the photographic resource that is referred to as the MLC Building was due to be renamed during 2002. Ensure students are aware that buildings can be sold and renamed.

Background information

Terminology

In this module students have opportunities to become familiar with and use the following terminology:

classifying	grouping	social justice
cultural environments	market economy	status symbols
demolition	price mechanism	urban development
ecological and economic sustainability	profit	urban ecology
ecological–economic interdependence	'red tape'	urban environment
economic	resources	
free market	sectors of the economy (primary, secondary and tertiary)	

School authority policies

Be aware of and observe school authority policies that may be relevant to this module, particularly those related to field trips.

Equity considerations

Activities take place in a supportive environment. They provide opportunities for students to increase their understanding and appreciation of equity through valuing diversity and challenging inequities. Activities encourage students to:

- compare perspectives
- apply the value of social justice
- assess who may benefit from or be disadvantaged by a particular change
- investigate diverse cultural groups including Aboriginal groups and Torres Strait Islander groups.

Some students with disabilities may need assistance with some activities. Advice should be sought from their support teachers. It is important that these equity considerations inform decision making about teaching strategies, classroom organisation and assessment.

Links

Studies of Society and Environment

This module is one of a suite of modules for Levels 1 to 6. See the Queensland School Curriculum Council website www.qscc.qld.edu.au for more information.

This module has conceptual and process links to the following modules:

- Level 4: *Changing places: Changing global environments*
- Level 4: *Where do my sneakers come from? Industry links the world*
- Level 6: *The global citizen: Ecology and economy.*

Other key learning areas

Activities may offer opportunities for planning across key learning areas. However, it is important that the integrity of the key concepts, organising ideas and processes within key learning areas is maintained.

Evaluation of a unit of work

After completion of units of work developed from this module, collect information and make judgments about:

- teaching strategies and activities used to progress student learning towards demonstrations of core learning outcomes
- opportunities provided to gather evidence about students' demonstrations of core learning outcomes
- future learning opportunities for students who have not yet demonstrated the core learning outcomes and to challenge and extend those students who have already demonstrated the core learning outcomes
- the extent to which activities matched needs of particular groups of students and reflected equity considerations
- the appropriateness of time allocations for particular activities
- the appropriateness of resources used.

Information from this evaluation process can be used to plan subsequent units of work so that they build on, and support, student learning. The evaluated units of work may also be adapted prior to their reuse. For further information, refer to the 'Curriculum evaluation' section in the sourcebook guidelines.

Activities

Phase 1 Exploring photographs

Core learning outcome emphasis: PS 5.5

In this phase, students explore and compare photographs of a city view taken months apart. They analyse the photographs to reveal values concerning economic and ecological sustainability and later compare their analyses with those of different cultural groups.

Focus question:

- Who may benefit and who may be disadvantaged by the demolition of a building?
- Introduce the student workbook and the student information sheets and discuss how students may work through the activities. Explain that at times students may work alone, in pairs or in small groups, and that at other times you will facilitate class discussions.
- Introduce Phase 1 activities by projecting a photograph of an Egyptian pyramid and explain how it can be used as one source of evidence about the values of Egyptian society. For example, once the purpose and approximate age of the pyramid is known, it may be interpreted to reveal that this society valued remembering its leaders for a long time. Ask students what it might therefore reveal about the value Egyptian society placed on democracy. Project photographs of other built environments and encourage students to treat them as sources of evidence and make inferences about the possible values of these societies. Encourage students to identify relationships between the values they identify and the four key values of Studies of Society and Environment. Emphasise values associated with social justice and sustainability.
- Allow students to explore the photographs on 'Student information 1'. Encourage them to discuss and compare their interpretations and discuss what other evidence would be needed before reaching any conclusions.
- Move among students while they complete Phase 1 activities and check they have recognised the removal of the building in one of the photographs. Encourage students to create lists of who may benefit from the changes that have been observed. Lists can be grouped and classified until some general classifications of who is likely to benefit from each change are created. The process can then be repeated for groups most likely to be disadvantaged by the changes. Draw students together to compare, discuss and, where appropriate, modify their decisions. Such grouping, classifying and re-classifying may provide evidence of demonstrations of learning outcome PS 5.5.

Phase 2 Investigating what we can learn from buildings

Core learning outcome emphasis: CI 5.1, SRP 5.1 and SRP 5.2

In this phase, students participate in question framing, comprehending, interpreting and locating information through exchanging possible questions and current findings to investigate urban ecology.

Focus questions:

- What is urban ecology?
- Why do we need government regulations?
- What values surround us in an urban environment?
- Phase 2 activities involve students developing questions about the photographs studied in Phase 1. Introduce the research by discussing questions that a number of young people asked as they walked past the buildings (see 'Student information 4'). Suggest that these questions seem to relate to how the land was used before buildings were erected and how decisions are made about how land can be used. Invite students to develop some questions that they would like to investigate about the buildings and the site surrounding them.

- Discuss with students why they think this unit is called ‘Urban ecology’ and what buildings and the land surrounding them may have to do with ecology and economy (these terms may require explanation). Review the information already gained during Phase 1. Read and discuss the meaning of urban ecology on ‘Student information 5’.
- Assist students to refine their questions. Read through and discuss the research that students are to begin (see Activity 6 in the student workbook).
- When students have completed their research, discuss their findings about the history of the site, who decides how land will be used and how the public responded to the demolition of the building in the photograph on ‘Student information 1’.
- Discuss students’ responses to the planning policies. Use the table students constructed to discuss urban planning and how policies reflect ecological and economic sustainability. Encourage students to imagine that they were given the task of deciding whether a building should be demolished or not. Suggest that to make such a decision, they would need to:
 - identify what they are trying to decide
 - make a tentative decision
 - try out the tentative decision by testing it and considering consequences.
 Discuss and list what may need to be considered when making decisions about the demolition of buildings.
- Assist students to use the information they have gathered and the table on ‘Student information 2’ to discuss what an urban skyline may reveal about values and beliefs. Explain that the function, age and appearance of buildings can provide windows through which students can interpret the core values and beliefs of a group and examine how these symbols are perceived by other groups. Ask students to pretend that they do not know that the photographs are of Brisbane and that all they know about the place is the information provided in the table. Ask small groups of students to consider what the photographs seem to suggest about:
 - the relative importance this society places on private as compared to government enterprise
 - where profit is to be made in this society
 - the ecological values of this society — for example, is there evidence of solar panels, verandas, gardens?
 - whether this society believes that human needs are best met in small-scale organisations.
 Provide opportunities for students to report the findings of their group. Once students have identified aspects of culture, they revisit those aspects through the perceptions of other groups. Encourage students to consider the viewpoints of at least two other groups. Discuss what different groups saw as important and why groups might have differed in what they saw in the photographs. Read with students and discuss ‘Student information 9’. It may also be possible to invite Aboriginal people or Torres Strait Islander people from your local area to provide their perspectives on these photographs or those of another urban area (CI 5.1).
- Assist students to use the information collected during this phase to refocus on their own research questions and to add to their summaries of information.

Phase 3 Analysing ecological and economic relationships

Core learning outcomes emphasis: PS 5.5, SRP 5.1, SRP 5.2 and SRP 5.5

Students analyse issues considered by developers, town planners and governments when deciding to conserve or demolish a building.

Focus question:

- What models can we use to depict consequences of decisions?
- Introduce this phase by assisting students to reflect on their investigations and to design a model to illustrate what they have learnt.
- Suggest to students that developers, town planners and the local council would have been involved in making decisions about whether to conserve or demolish the building in the photographs students have studied. Brainstorm and list what issues may have been considered. Lead students to understand that economics would be one of the important issues.

- Assist students to investigate economy, markets, returns and prices by completing Activity 9 in the student workbook. Ensure that students have an understanding of how flow charts can be used to model consequences and decisions. Circular flow diagrams may be introduced to show how such diagrams are used to model economies.

Phase 4 Communicating conclusions

Core learning outcomes emphasis: PS 5.5, SRP 5.5

This phase provides opportunities for students to consider how people may have a say in changes to regulations governing the building industry.

Focus questions:

- What do local politicians think about some of the issues we have investigated?
 - How can information be organised in preparation for a short essay?
 - How might access to democracy be improved in our local government?
- Ask students to reflect on their investigations and consider how people might be able to influence regulations governing the building and/or real estate industry. Connect discussions to the demolition of buildings. Assist students in small groups to complete Activity 10 in the student workbook.

Phase 5 Reflect and review

Core learning outcomes emphasis: PS 5.5, CI 5.1, SRP 5.1, SRP 5.2, SRP 5.5

This phase provides time for students to reflect on and review their investigations and to prepare their findings for presentation.

Phase 1: Exploring photographs**Student workbook**

Activities in this phase focus on the following core learning outcome:

PS 5.5 Students evaluate ideas concerning sustainability to identify who may benefit and who may be disadvantaged from changes to a Queensland industry.

Activities in this phase explore the following focus question:

- Who may benefit and who may be disadvantaged by the demolition of a building?

Activity 1 Photographs as sources of evidence

Carefully study the two photographs of buildings in Brisbane on 'Student information 1, Buildings in Brisbane'.

Write answers to the following questions:

- (a) What is the same in each photograph?
- (b) What is different in each photograph?

Compare your answers with those of other students in your class.

On a large sheet of paper, make a list of similarities and differences.

Activity 2 Reconsider the photographs

Read 'Student information 2, Photograph details'. Consider what this information reveals about the possible values of Australian society.

Activity 3 Different perspectives

It is amazing how the same scene can look different through different eyes. Imagine you are a real estate developer, a homeless person, a person in a wheelchair, someone from an outback region of Australia or an Aboriginal person whose ancestors lived in the area and look at Photo 1 again. Try to look at the photo through this other person's eyes and write a description of what you see. Share and compare your perspectives with other members of your class.

Activity 4 Looking a little deeper

You have probably noticed that there is a building in Photo 1 (which seems to be covered by something) that is not in Photo 2. Think about this building and then complete the following:

1. List people who may benefit from the removal (or demolition) of the building.
2. Identify things that people on your list may have in common?
3. Who may not benefit from the removal of this building?
4. Read 'Student information 3, People advantaged/disadvantaged', and compare your lists with the lists provided.
5. Discuss your lists with other members of your class.
6. Group, classify, compare and reclassify your list to reflect your discussions and decisions.

Phase 2: Investigating what we can learn from buildings

Student workbook

Activities in this phase focus on the following core learning outcomes:

- CI 5.1** Students investigate aspects of diverse cultural groups, including Aboriginal or Torres Strait Islander groups, and how others perceive these aspects.
- SRP 5.1** Students evaluate the relationship between an ecological system and a government and/or an economic system.
- SRP 5.2** Students design models of the Australian economic system to demonstrate its relationship to global trade.

Activities in this phase explore the following focus questions:

- What is urban ecology?
- Why do we need government regulations?
- What values surround us in an urban environment?

Activity 5 Learning from buildings

Use the questions on 'Student information 4, Learning from buildings' to develop some questions to investigate.

Consider what can be learnt from buildings. Think about the two photographs you have studied and what you would like to find out about the buildings and the site surrounding them.

It is important to make sure you have created questions, not statements. Check your questions according to:

- links with the photographs
- whether they are closed or open (questions for social and environmental inquiry should be open, without the possibility of simple yes or no answers)
- how manageable they are (do they address a clear topic or aspect of a topic?)
- whether the information to answer your questions is likely to be available or accessible.

Consider how buildings and land relate to urban ecology. Read 'Student information 5, Urban ecology'.

Activity 6 Research

Begin to research your questions by working through the following investigations.

Investigation 1 Land use — How was this land used until the time the building in the photograph was demolished?

Read 'Student information 6, Land use', which provides historical information about the site of the buildings you examined in Phase 1. Answer the following questions:

1. Who originally used the land in the photograph?
2. Which of the following statements is correct?
 - (a) Most of the first Europeans in Brisbane were free settlers.
 - (b) In 1901 Aborigines were finally paid for the land which was taken from them.
 - (c) In 1958 the Prudential Building was built on land which had once been a convict workshop.
 - (d) The Prudential Company was a small company.
3. In which years did the first buildings appear?

Phase 2: Investigating what we can learn from buildings (continued)

Student workbook

4. Given that the Prudential Company was a British company, which of the following statements seems to be correct?
 - (a) For over a hundred years, Australians disliked the idea of foreigners owning buildings in their cities.
 - (b) In the 1950s, Australians disliked the idea of foreigners owning buildings in their cities.
 - (c) Judging by the *Courier-Mail's* report of events, buildings which included some spaces to be used by the public seem to have been approved of by the people of Brisbane.
 - (d) By the 1950s, the planning stage to the finished building usually took only a matter of months.
5. The majority of people working on the corner of Queen Street and North Quay in the 1960s could best be described as:
 - (a) labourers
 - (b) office workers
 - (c) church workers
 - (d) factory workers.

Use the information you have gained to answer your own questions about how the land was used prior to buildings being erected and demolished. Write a summary of the information you have collected.

Investigation 2 Land use — Urban planning

Read 'Student information 7, Urban planning'. Complete the following:

1. Make a summary of the Brisbane City Council planning policies. There are many ways of creating a summary. Use one of the following:
 - Complete a drawing of what a part of the city may look like if one or two of these regulations were followed. Your drawing should be labelled and, if possible, coloured.
 - Sketch a concept map of these regulations. Write a couple of key words in the centre of the page and connect these with lines to other key words, which in turn are connected to other key words.
2. Decide whether you agree or disagree with the planning policies. Construct a table with three columns, one headed 'Agree', another 'Disagree' and the third 'Reasons'. In the Agree column, list in point form those regulations that you think are a good idea. In the Disagree column, list any you think are not such a good idea. In the Reasons column, give a summary of your reasons.

Investigation 3 Evidence from reports

So far in this investigation, you have explored what photos and historical texts can tell you about the development of an urban site. But what other sources of information would be useful in your investigation?

What can you learn from reports or comments describing the demolition of the Prudential Building? Read 'Student information 8, Reports of the demolition of the Prudential Building', and answer these questions. Your answers should provide a summary of the issues related to the demolition of the building.

1. Why was this building knocked down?
2. Was the public concerned at all?
3. What was found underneath it?
4. Who owned it when it was demolished?
5. What did they do with the land once the building was removed?

Activity 7 Discussion

Discuss with other members of your class what you have learned so far about the site and urban planning and urban ecology.

Phase 3: Analysing ecological and economic relationships

Student workbook

Activities in this phase focus on the following core learning outcomes:

- PS 5.5** Students evaluate ideas concerning sustainability to identify who may benefit and who may be disadvantaged from changes to a Queensland industry.
- SRP 5.1** Students evaluate the relationship between an ecological system and a government and/or an economic system.
- SRP 5.2** Students design models of the Australian economic system to demonstrate its relationship to global trade.
- SRP 5.5** Students apply the value of social justice to suggest ways of improving access to democracy in Queensland or other Australian political settings.

Activities in this phase explore the following focus question:

- What models can we use to depict consequences of decisions?

Activity 8 What I have learnt

Reflect on your investigations in previous activities and design a model, such as a diagrammatic overview or concept map, to illustrate what you have learnt.

Activity 9 Understanding economic issues

Issues considered before demolishing a building would include the amount of return for renting space in the building and how much money would be lost or gained by selling, refurbishing or demolishing the building, and selling the land for redevelopment.

Economy, markets, returns and prices are important aspects to consider when investigating the viability of using and renting space within buildings. Most prices in Australia are decided by the 'marketplace'. But what exactly does this mean? Answer the following questions.

1. If the number of people wanting to buy a product (including a service) is greater than the supply of that product, what would happen to the price?
 - a. rise
 - b. fall
 - c. stay the same
2. What do you think would happen to the rental price of office space in a city if a hundred companies all wanted to rent floor space, but only two floors were available?
 - a. rise
 - b. fall
 - c. stay the same
3. Imagine that thousands of companies and individuals who rent office buildings were asked how many floors they would rent at a range of prices. The responses were averaged and the results were:

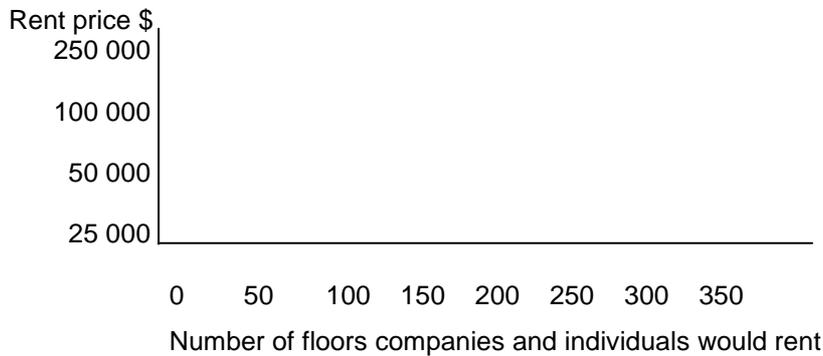
Rent in \$ per month	Average number of floors companies and individuals would want to rent
250 000	3
100 000	60
50 000	110
25 000	320

Use the information in the table to draw a line graph.

Phase 3: Analysing ecological and economic relationships (continued)

Student workbook

Cost of renting floors in office buildings



Notice that as the price goes up, the demand declines. This applies to nearly all products.

The line on the graph is sometimes called a demand curve, as it measures how much is likely to be demanded at different prices.

4. In a group, investigate flow charts and how they can be used to model multiple consequences and decisions. Investigate how circular flow diagrams are used to model economies (using resources supplied by your teacher).
5. Read and discuss 'Student information 10, Setting prices in the marketplace'. In small groups, either create a concept map that links an urban ecological issue with an economic issue or create a flow chart that illustrates government regulations and roles in building developments and the economy.
6. Use the information you have collected to add economic issues to your summary of your investigations.

Phase 4: Communicating conclusions

Student workbook

Activities in this phase focus on the following core learning outcomes:

- PS 5.5** Students evaluate ideas concerning sustainability to identify who may benefit and who may be disadvantaged from changes to a Queensland industry.
- SRP 5.5** Students apply the value of social justice to suggest ways of improving access to democracy in Queensland or other Australian political settings.

Activities in this phase explore the following focus questions:

- What do local politicians think about some of the issues we have investigated?
- How can information be organised in preparation for a short essay?
- How might access to democracy be improved in our local government?

Activity 10 Improving access to democracy

Form small groups to discuss and list ideas about who might benefit and who might be disadvantaged if changes were to be made to regulations governing the building industry or real estate industry.

With your teacher's assistance, invite politicians, members of tenants' associations and local businesses to discuss these issues. Consider democratic process, how people have a say in relation to government regulations, lobby groups, social justice and how to improve access to democracy.

Use the information discussed and gathered to write a short essay that answers the question 'How might access to democracy be improved in our local government?'. To organise your information:

- List as many facts/points as possible.
- Decide if any of the facts/points have anything in common and put the letter A next to the ones that do.
- Decide if any points remaining on the list have anything in common and label those points with a B. Decide if any further categories would be useful. If so, create a C category.
- Decide on a label or classification for the items listed as A, B and C. That is, clarify why all those items belong together.
- Structure your essay by writing sequenced paragraphs where the first paragraph describes A, B and C in general terms, the second provides more detail about A, the third more detail about B, and so on.

Phase 5: Reflect and review

Student workbook

Activities in this phase focus on the following core learning outcome:

- SRP 5.5** Students apply the value of social justice to suggest ways of improving access to democracy in Queensland or other Australian political settings.

Activity 11 Reflect, review, present

Individually, or as part of a group, reflect on your investigations and findings and prepare your work for presentation to your teacher. Discuss with your teacher whether further research is required and how to present your work.

Buildings in Brisbane

Student information 1



Photo 1

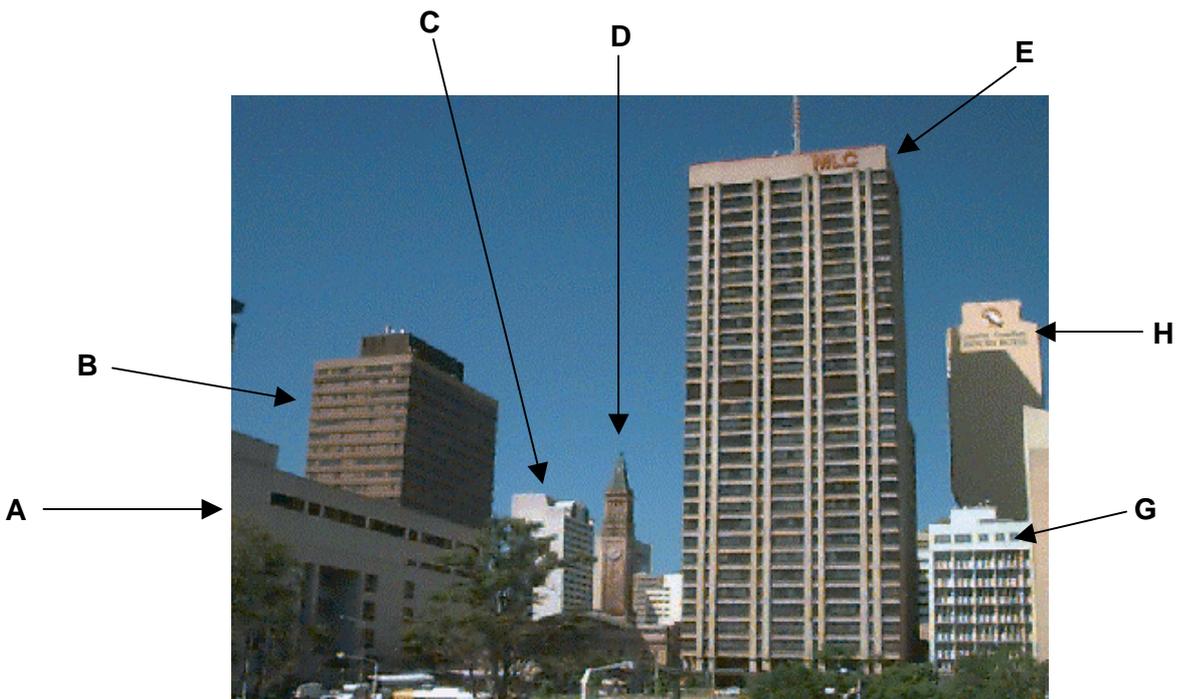


Photo 2

Photograph details

Student information 2

Building	When opened?	What is/was it mainly used for?	What can we learn from this?
A. The State Law Courts, including the Supreme Court	Sept 1981	Legal trials	
B. Brisbane Administration Centre	Early 1970s	Brisbane City Council departments	
C. 160 Ann Street	Early 1970s	Environment Protection Agency	
D. Brisbane City Council City Hall	April 1930 (building commenced — 1917)	Council meetings, art gallery, public events	
E. MLC Building	1976	Various tenants including solicitors, Queensland School Curriculum Council, MLC Life Insurance, Queensland Aboriginal and Torres Strait Islander Legal Services Secretariat	
F. Prudential Building (Photo 1 only)	1950s	Insurance	
G. World Models Centre (Photo 2 only)	1930s	Various tenants including solicitors, hair designers, Wallace Bishop administration	
H. Country Comfort Lennons Hotel	1973	Hotel	

Note: All information was correct at time of writing. Be aware that tenants in buildings may change.

People advantaged/disadvantaged**Student information 3****Those who may benefit from the demolition of the building include:**

- people who own the land and can build on it and sell the new building for a profit
- the people on the lower floors of the MLC Building who may have a better view
- the wreckers (or demolition workers) who were paid to pull down the old building
- city workers who can use the land as a park
- tourists who can relax in the park
- homeless people who might sleep in the cleared space
- artists and buskers who could perform in the space.

Those who may be disadvantaged by the demolition of the building include:

- older people who have memories connected to the building
- workers who had jobs in the building
- people whose needs were met by businesses operating from offices in the building
- owners of businesses operating from the building who have to relocate
- the Council and electricity companies through loss of revenue from water and electricity usage.

Learning from buildings**Student information 4**

In mid-2001, Photos 1 and 2 on 'Student information 1' were shown to a number of young people as they walked past the site. They were asked: 'Do these photographs make you think of any questions you would like to ask?' Here are some of their responses:

- What was the building that used to be here used for?
- Why was the building knocked down?
- What was here before the building?
- Would there be anything left under the ground from the past?
- Will the site still be the same 50 or so years from now?
- Will we still be able to walk through the site if a new building is erected?
- Would any new building have to have a big courtyard or a lawn or shops for people to retain the feeling of open space?
- What did the site look like before there were any buildings?
- Can whoever owns this land build anything they like on it using any design/material/colour they like?
- Would there be ghosts here?
- Were convicts ever kept here and punished?
- Did the Aborigines use this land for anything special?
- Are there any Aboriginal people who still feel connected somehow to this land?
- Did the first Europeans who arrived here pay the Aborigines for this land?
- Why are trees planted on this site if it is a building site?
- Why can't this site be used as a park?
- Will the remaining building on this site be knocked down?
- A lot of the other buildings around here are government buildings; was this a government building?
- Are there laws/regulations which say that any new building on this site will have to look like the old one?

Urban ecology

Student information 5

Plants, animals and humans are surrounded by living and non-living things. This is their environment. A tree, for example, is surrounded by an environment that includes the soil it is standing in, the air around it, the rainfall and temperature of the area where it stands and any animals and plants that live near or in it and may affect it. The study of how plants and animals affect their environment and are affected by it is called 'ecology'.

An urban area is a city area. Urban ecology is the study of city environments and how humans can affect this built environment and how it can affect humans.

Over half the world's population lives in urban areas and the move to the cities is continuing. Over 85% of Australians live in urban or near-urban (suburban) environments. The study of these environments is therefore important, yet until fairly recently cities were often unplanned and polluted. Urban ecologists are helping to plan more liveable cities where tall buildings do not create wind tunnels, the sun is not blocked out, there are open spaces to relax in, subways do not become crowded and unpleasant, buildings are required to look attractive and older buildings which provide a link with the past are, where possible, preserved.

Land use

Student information 6

The photos were taken from the Victoria Bridge which spans the Brisbane River. For at least 40 000 years, the land on the banks of what we now call the Brisbane River was used by the Jagara people. It had a lush subtropical vegetation. In 1823 it was explored by John Oxley who recommended using the location as a prison, especially for those convicts at Botany Bay who had committed more serious crimes. Trees were removed and the prison (or penal) settlement began early in 1825. Between 1826 and 1830, when Commandant Patrick Logan was in charge of the settlement, many buildings were established. For example, the windmill on Wickham Terrace (which is still there today) was built in 1828. Sketches from this period show that the land in Photo 1 was used by a timber yard and convict workshop in 1829.

In the 1830s, however, the number of convicts being sent from NSW began to decline and by 1835 there were only about 370 remaining. In 1839, only 29 convicts remained under sentence and as the transportation of convicts from Britain had now stopped, the Moreton Bay Settlement was closed as a penal settlement. The land in the area shown in the photograph began to be surveyed. This took several years, but by February 1842 it was officially declared that free settlers could move to the land. Although there had been no treaty with the original Indigenous owners, the government began to rent out some of the surveyed areas. In September 1843, the land on which the demolished building in the photograph had stood was leased to William Broughton, Bishop of the Episcopalian Church. A church was built and by 1901 the lease belonged to the Church of England. In that year an Act of Parliament made it legal for the Church to sell the land. Over the years the land was used by a school, a hotel, a theatre and for various shops.

On 27 December 1951, *The Courier-Mail* announced that the Prudential Assurance Company Ltd had drawn up plans for a new five-storey building at the corner of Queen Street and North Quay. The newspaper announced that the building would have a '... curved facade facing Victoria Bridge, fronted by spacious lawns and gardens ...' and pointed out that the Prudential Assurance Company Ltd was '... one of the biggest financial institutions of the British Empire'. By October 1956 the site was cleared and building began. It took until 1958 to build the Prudential Building.

Urban planning

Student information 7

Local government has a major role to play in urban planning and in Brisbane this is the responsibility of the Brisbane City Council (BCC). What follows is a sample of the BCC's planning policies.

Some **Brisbane City Council planning policies** that affect building in the central business district:

There are rules in regard to the **appearance of buildings in the Central Business District**. They exist '... to ensure a pleasant and convenient environment for pedestrians ... and promote Brisbane's special character'. The policy states that a city's **built form** '... along with its vegetation, topography and climate contribute to an overall sense of character ...' and that Brisbane's character has been described as subtropical, '... a river city set in a lush green environment with a sunny, warm climate ... [therefore its] buildings were constructed with design features such as large verandas, balconies, window hoods, awnings and the like. These features created an interplay of bright sunlight and deep shade on building facades'. In addition, '... many of the historical and older landmark buildings display a uniformity of colour and materials, with the use of sandstone as a building material being particularly evident'. The Council therefore encourages developers to use similar building materials and designs and, for example, discourages the use of smooth and reflective surfaces. This is especially because of the heat and glare impact on nearby buildings, and the lack of interest or visual texture for pedestrian observers or occupants of nearby buildings. In heritage precincts, the use of reflective materials is considered to be unacceptable. At street level, the development of outdoor areas and the use of vegetation on balconies is encouraged. The policy states that:

- 'Tropical and subtropical species such as palms, ferns and vegetation with climbing/trailing characteristics would be most suitable.'
- 'Where blank walls are an unavoidable part of a street front ... consideration should be given to the use of murals or sculpture to enrich the surface.'
- 'Fountains can have the effect of acoustically muffling the more unattractive noises of the city while at the same time adding to the subtropical character of the City.'

Above the street level, buildings should be built so that they do not put too much shadow on the Queen Street Mall or create wind tunnels that could make the mall unpleasant. The town plan requires the front of some buildings to be set back to provide shelter for pedestrians. There are rules for building along the river. These depend on the area or **precinct** of the river on which building is planned. The Council has preferred land uses and river uses for each precinct. Large-scale developments have slightly different rules to individual buildings — for example, they should not disrupt pedestrian or traffic movement.

Bicycle parking must be provided in all new buildings, to contribute to people's health, a cleaner environment and a more attractive city. This parking should be well signposted, lit and regularly supervised. One bicycle parking space is required for every 500 square metres of gross floor area of the building. Shower cubicles and change rooms should be provided at the rate of one for every ten bicycle parking spaces.

The central city is dominated by the Central Business District, which is centred around the Queen Street Mall. It is planned to maintain this compact Central Business District, with its focus on retailing, some residential and entertainment. The Council **desires** to open more riverfront areas to the public. In the Central Business District, the Council says it is desirable to extend pedestrian walkways, including bridges over roads, for 24-hour-per-day pedestrian use. (By saying it is desirable, the Council is making clear to developers what will usually be expected if a permit to develop is to be issued.)

Towers and space between towers

Towers above 'podium' or street level height should be set back from the street and there should be adequate spacing between buildings to provide views and sufficient natural light for people in buildings and to ensure there is sunshine in streets. Ideally, Central Business District footpaths would be in the sun in winter and in the shade in summer, but access to winter sun is difficult; therefore, it is considered important that '... places are retained in the centre of the city where people can sit in the sun in winter. This will be taken into consideration in assessing development which may overshadow parks and similar open spaces'.

Visual appearance is considered, for example:

- by encouraging down-ramping for vehicles
- by ensuring that the front or facade of buildings is continuous at the pedestrian level so that the 'streetscape' appears continuous rather than as a series of developments
- by restricting the number of video-game parlours and so on in the Mall, which is seen to portray Brisbane's image; they are allowed in the entertainment precinct bounded mainly by George, Charlotte, Albert and Queen Streets. The provision of outdoor eating-places is also encouraged in this precinct.

Prohibited developments in the Central Business District:

- caravan parks
- industry other than service or light industry
- stables
- storage yards
- warehouses

Reports of the demolition of the Prudential Building

Student information 8

The following are compilations of reports about the demolition of the Prudential building.

In October 1996 architect Richard Allom suggested the building should be preserved.

Richard Allom, a partner at conservation architecture specialists Allom Lovell Marquis-Kyle, said buildings like the Prudential were an important part of the city and must be protected ...

'To generations of Brisbane people, the Prudential building has marked their arrival in the city. Brisbane will have a sense of loss when the building faces destruction. While it is in some ways an ordinary building, it forms part of what we recognise about our city, and for this reason deserves to be properly mourned', Mr Allom said ...

An opposing view was provided by a property investment manager.

... Suncorp property investment manager John Kerrigan said the building would be 'down' by Christmas.

'We regard the building as having no architectural merit', Mr Kerrigan said ...

In January 1997, historic ruins were uncovered at the building site. This was part of the report.

Just off the corner of Queen and George Streets, a dozen workers toil away at what is considered to be one of the most important convict archaeological sites in Queensland. It is believed the remains of the soldiers' barracks and convict workshops may be the last major ruin found in Brisbane. The 15m by 15m area was uncovered by the pre-Christmas demolition of Prudential, Scanlans, Trittons and other buildings opposite the Treasury Casino. Archaeologists Ann Wallin and Gordon Grimwade ... with help from National Trust architects and others have uncovered a total of 1066 artefacts ... The site was used to fit leg irons on convicts and administer floggings. *'Only Aboriginal sites are older or more important than this',* Ms Wallin said ...

... Suncorp has not announced its redevelopment plans but it intends to preserve and display some of the relics in the foyer of a new building. In the meantime, the site will become a temporary park.

Different perspectives

Student information 9

The following comments about Photograph 1 were made by Aboriginal students who live in an urban environment:

- very tall buildings
- lots of glass so lots of work cleaning windows
- some new and some old buildings
- a place of power
- a large clock in a tower which could show that time is important to the people who live here
- only a few trees
- a place which makes me think of questions such as:
 - What was the name of the local Aboriginal people who lived in the area?
 - What did the area of land in the photograph look like before the city was built?
 - What kind of lifestyles did Aboriginal people have before the city was built?
 - Do Aboriginal people work in any of these buildings?

Setting prices in the marketplace

Student information 10

Imagine if only the market forces of supply and demand set the price of teenage labour. There are more young people looking for work than there is work available. If the market set youth wages, they would be very low. Do you know the average earnings for a 15-year-old part-time worker? If market forces alone set this wage, it would be lower and this may not be fair. However, the market alone does not always set prices. Sometimes there are rules and regulations that set legal minimums. Some people say the legal minimum wage for young people today is too high and that is why many young people cannot get work. What do you think?

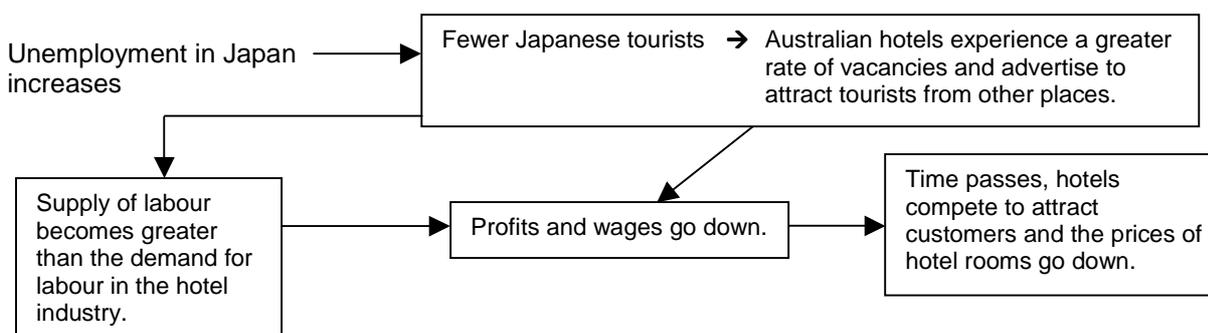
It has been accepted in Australia for a long time that governments should have some control over markets. For example, there is no market for the labour of children under the age of 14 years and 9 months because the government long ago made child labour illegal. The government also passes laws concerning safety requirements at work. There are many other examples of how the government influences markets. How much influence they should have is something that is often debated by citizens and politicians. Most Australians accept that some expensive goods and services, such as roads, public transport, hospitals, schools, parks and water supplies, should be supplied or partly paid for by the government. For many years, Australians have elected governments that use taxpayers' money to provide these services, so that everyone, rich or poor, can enjoy them. But governments do not have all the power.

In a city like Brisbane, for example, if tourists from overseas decided not to visit there would be less demand for fast food, hotels and motels, buses, theme parks and many other services. Fewer Australian workers would be needed and the number of people looking for work would increase. If the supply of workers became higher than the demand for workers in all sectors of the economy, people may offer to work for less income. That is when the market would push incomes down (if no minimums were set by government). The government could pass laws to set legal minimum wages. Would this be fair? What should the government do in these circumstances? Should the market set all prices?

Prices for human labour in Australia are determined by Australia's economic system. This system relies mainly on market forces, but regulations also have a major influence on labour markets. The amount of regulation has reduced since the 1980s and it is often said that this is because Australia must now compete more and more in global markets. You need to be able to show how Australia's economic system is related to economic trade (SRP 5.2). You may have already learnt to design models that can show relationships between Australia's economic system and global trade. For example, this could be shown using supply and demand graphs. If demand for Australian copper was greater than the supply, the price Australian producers could ask would climb higher.

If Australian copper producers made more profit, they could employ more people. They would also be likely to spend more on goods and services. This would create more income for other Australians. The Australian economy is strongly connected to the global economy and about 20% of total employment is connected to Australia's export industry.

Here is another example, this time with links back to buildings and urban environments. Start by thinking about how unemployment in Japan might affect a city like Brisbane. Using a flow chart model, the effects could be shown like this:



In the future, these lower prices might attract the tourists back. Can you think of some more long-term consequences?

Sample assessment

Teacher resource

The student activities may be used as self-paced learning experiences that provide opportunities for students to demonstrate outcomes in a range of settings and circumstances. The learning experiences acknowledge a range of learning styles that can be augmented by student interactions with the computer and other resources.

Structured observation

Assess by observing students at various times as they work through the activities. Record observations on checklists and/or make anecdotal notes. Observations could occur:

- during discussions with an individual or small group
- after the submission of short written pieces, which could be requested from individuals rather than the whole class
- during tutoring sessions as students work through activities
- after a whole-class activity where individuals have made distinct contributions.

Recordings need to occur quickly and efficiently. The observations could be ticked 'Yes' or 'No'. For each student, the following checklist could be printed on half an A4 page and the back of the sheet could be used for written comments/anecdotes. The checklist and anecdotes provide a guide to making judgments about the students' demonstrations of the learning outcomes.

Sample checklist for *Urban ecology: Ecology and economy*

Student's name _____

Observation Students can:	Yes	No	Date	Core learning outcomes
<ul style="list-style-type: none"> • compare their own perspectives about environments or markets with those of peers and other cultural groups, including Aboriginal groups or Torres Strait Islander groups • show some recognition that their perspective is not the only valid one 				CI 5.1
<ul style="list-style-type: none"> • use ideas related to sustainability to identify who may benefit and who may be disadvantaged by the demolition of a building in Brisbane 				PS 5.5
<ul style="list-style-type: none"> • revise hypotheses after comprehending additional information — for example, in revision of lists 				PS 5.5
<ul style="list-style-type: none"> • interpret values and beliefs regarding ecological and economic sustainability from some government regulations 				PS 5.5 CI 5.1
<ul style="list-style-type: none"> • use some evidence in a short written piece to make a judgment about an action a government has taken in an urban environment 				SRP 5.1
<ul style="list-style-type: none"> • plot data concerning supply and demand for a good or service on a graph which identifies the price that would operate in a free market 				SRP 5.2
<ul style="list-style-type: none"> • verbally describe how the global economy can impact on Australia's economy 				SRP 5.2

Support materials and references

Burke, K. 1997, *How to Assess Authentic Learning*, Hawker Brownlow Education, Cheltenham, Vic.

Casinader, N. 1996, *A Place for Geography*, Longman, Melbourne.

Cochrane, J. 1987, *Urban Ecology*, Wayland, UK.

Codrington, S. & Scott, K. 1995, *Understanding Environments*, Cambridge University Press, UK.

Department of Employment, Education, Training and Youth Affairs 1998, *Discovering Democracy School Materials*, Curriculum Corporation, Melbourne.

Gilbert, R. (ed.) 2001, *Studying Society and Environment*, 2nd edn, Social Science Press, Katoomba, NSW.

Lazear, D. 1994, *Multiple Intelligence Approaches to Assessment*, Hawker Brownlow Education, Cheltenham, Vic.

Wilson, I. 1994, *A Geography of Queensland*, Cambridge University Press, UK.

Websites

(All websites listed were accessed April 2002.)

Brisbane City Council. <http://www.brisbane.qld.gov.au/cityplan>

Use the Brisbane City Council website to access town planning issues and policies.

Developments are occurring rapidly in this area. Excellent sites can be located by completing web searches for:

- Aussie Schoolhouse where students can contact other students about their understandings of urban ecology and building
- Brisbane Region Environmental Council
- Brisbane Urban Renewal Task Force
- Griffith University Eco Centre.

This sourcebook module should be read in conjunction with the following Queensland School Curriculum Council materials:
Years 1 to 10 Studies of Society and Environment Syllabus
Years 1 to 10 Studies of Society and Environment Sourcebook Guidelines
Studies of Society and Environment Initial In-service Materials

ISBN 0 7345 2300 9

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